Central Intelligence Agency

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Washington, D.C. 20505

DIRECTORATE OF INTELLIGENCE

SEP 7 1984

MEMORANDUM FOR: Ambassador Diana Lady Dougan
Coordinator, International Communication
and Information Policy
Department of State

FROM : [redacted]
Director of Global Issues

25X1

SUBJECT : Mexican Telecommunications [redacted]

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1. The attached memorandum responds to your request for background information for use in bilateral discussions with Mexico on telecommunications and information policy. The memorandum on the Mexican telecommunications organization, regulation, and industry was drawn from several [redacted] studies. We have summarized and augmented the materials in these studies with [redacted] press reporting. [redacted]

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2. Please direct any questions or comments to [redacted] Chief, Third World Issues Branch [redacted]

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[redacted]

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Attachment:
Mexican Telecommunications [redacted]
GI M 84-10160, September 1984 [redacted]

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CONFIDENTIAL

[redacted]

GIM 84-10160

SUBJECT: Mexican Telecommunications

OGI/ECD/TW: [redacted] (12 September 1984) 25X1

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MEMORANDUM

COMMERCE

# Mexican Telecommunications

## Organization of Telecommunications

[redacted] all communications regulations, standards, licensing and tariffs, are under the direct control of the Secretaria de Comunicaciones y Transportes (SCT). SCT is a Department of the Executive Branch of the Federal Government headed by Rodolfo Felix Valdes. [redacted] 25X1 25X1

Within the SCT, two agencies are responsible for the planning and administration of telecommunications services. The Direccion General de Telecomunicaciones (DGT) provides telex, video distribution to broadcasting stations, data communications, rural and marine communications, and international communications, including a portion of the long-haul national microwave network and the INTELSAT earth stations at Tulancingo. It also grants licenses and franchises. DGT is organized into four subdirectorates: rural telephone, licenses and international affairs, services, and administration. The Direccion General de Telegrafos Nacionales (DGTN) operates national and international telegraph services. [redacted] 25X1

The national public carrier, Telefonos de Mexico, S.A. (TELMEX), provides domestic public telephone service. Long-haul transmission services are owned jointly by TELMEX and DGT. The Chairman of the Board of TELMEX is the Secretary of Communications and Transport, an innovation of the present administration intended to reduce conflicts between the programs of the two major carriers. [redacted] 25X1

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[redacted] 25X1

TELMEX is 51 percent government-owned and financed with shares sold on the stock exchange. In return for 51 percent of TELMEX stock, the government gives TELMEX 40 percent of the revenue from telephone taxes. According to an industry study, taxation is heavy and includes both a telephone use tax and a value added tax. New telephone subscribers are required to purchase shares in TELMEX. TELMEX obtains additional income from its investments in other companies such as Indetel and Ericsson. Over the years TELMEX has absorbed more than 100 independent telephone companies to create a single national public carrier. Those former independent companies are now subsidiaries of TELMEX. [redacted] 25X1

Regulatory Practices

SCT regulates TELMEX tariffs, approves expansion plans, and develops standards for telephone service. TELMEX service policies are similar to those for franchised monopoly carriers in other countries. TELMEX has an exclusive monopoly on the provision of services and equipment in its areas of responsibility. Intercity services provided over the network jointly owned by TELMEX and the DGT are also noncompetitive. Large users are permitted to lease private telephone lines but are not allowed to share or resell them. [redacted] 25X1

The demand for intercity services has been increasing rapidly, but despite rapid network expansion, service to rural areas is poor. SCT is confronted with the problem of whether to invest in satisfying unmet demand for interurban services, or attempt to bring services to a large portion of the rural population that requires communications facilities. [redacted] 25X1

Procurement Policies

TELMEX and DGT are the major purchasers of telecommunications equipment in Mexico. Together, they account for approximately three-quarters of the total market. In the private sector, major buyers of telecommunications equipment include broadcasting, transportation, fishing, retailing and insurance companies. [redacted] 25X1

TELMEX purchases all telephone equipment and DGT purchases all telex equipment. According to an industry study, both TELMEX and the DGT have used the same suppliers (e.g., Ericsson, Indetel) for years. Government policy, to date, has been to allocate contracts among existing suppliers but not to allow the entry of new suppliers into the market. TELMEX's procurement policy is to buy mainly from local manufacturers. Imports are, to a great extent, from the parent companies of the local subsidiaries owned, at least in part, by TELMEX. [redacted] 25X1

All suppliers to the federal government must be registered as approved suppliers to the public sector with the Directorate General of Procurement and Supply Standards and the Secretariat of Commerce. By law, all government procurements are now required to be put out for tender. Foreign suppliers reportedly provide only the most essential information concerning their operations. Once approval is granted, the supplier may sell to all federal agencies without further requirements. [redacted] 25X1

Equipment Suppliers

Table I provides data on the telecommunications equipment market for 1979-82 and projected 1987. This data shows that Mexican telecommunications firms mainly produce telephone, transmission, and mobile radio equipment. They produce virtually no video or radio broadcasting, data communications, test and measurement or satellite transmission equipment. [redacted] 25X1

Table II shows telecommunications equipment suppliers and the type and origin of their products. [redacted] major suppliers of telephone switching equipment and PBX systems are subsidiaries of Ericsson (Sweden) and ITT and GTE (US). All three have been operating in Mexico for over 20 years and have 49 percent foreign participation. Siemens Telecommunicaciones, S.A., a subsidiary of Siemens of Germany, has been the major supplier of telex switching equipment. [redacted] 25X1 25X1

According to a Department of Commerce study, the market for data communications equipment is supplied primarily by imports from the US, with an increasing share coming from Europe and Japan. Transdata has begun local production of data switching equipment, but most of the market is supplied by imports from the United States. Local production of modems is growing with Syscom, GTE and Transdata dominating the market. Multiplexers are also produced locally by Syscom and Transdata. [redacted] 25X1

Table III shows Mexican imports of telecommunications equipment from the OECD countries during the 1978-1982 period. The figures include components which Mexican companies import and then assemble for local production. An industry study shows that the United States maintained its dominant position with a 58 percent share of Mexican telecommunications imports in 1982. However, aggressive marketing by the Japanese increased their share in the Mexican market from 7 percent in 1978 to 21 percent in 1982. Canada also boosted its exports five-fold during the same period. [redacted] 25X1

Domestic Satellite Communications

In December, 1985 the Mexican satellite system, "Project Morelos", is scheduled to begin. It will provide telephone, telegraph, television, telex and radio services. The major user of the satellites will be Telefonos de Mexico (TELMEX). According to press reports, 45 percent of the Morelos system

will be used for commercial telephone services such as energy, agriculture, and banking networks. Another 30 percent will provide rural telephone services, and the remaining 25 percent will be slated for other uses. [redacted] 25X1

Four major US companies are involved in the construction and launching of the two satellites that will eventually make up the Morelos system. They are:

- Hughes International Communications -- construction of the two spacecraft under a $92 million contract.
- COMSAT General Corporation -- assembling the launch vehicles under a $2.4 million contract.
- McDonald-Douglas -- building the launch vehicle for the first satellite under a $11.3 million contract.
- NASA Space Transport System -- management of the launch from the Kennedy Space Center under a $24 million contract. [redacted] 25X1

Research and Development

We know little about Mexico's telecommunications R&D priorities The National Council for Science and Technology (CONACYT) was established in 1970 to participate in the formulation of government science and technology policy. Our analysis indicates that it has failed to strengthen the relationships between research institutes and the private sector. TELMEX has its own R&D section backed up by GTE, ITT and Ericsson and sometimes by other US companies. According to an industry study, experiments and testing are carried out on telephones, multiplex systems, facsimile units, modems and teleprinters. [redacted] 25X1

Trade Restrictions

According to an industry study, import tariffs on telecommunications equipment average about 10 percent, although duties as high as 50 percent are applied to equipment such as telephones with automatic devices and telephones for public service. For radio and television broadcasting equipment, tariffs range from 15-30 percent. Preferential rates of 1-5 percent are charged on

certain goods from Bolivia, Brazil, Ecuador, Paraguay, Argentina and Uruguay. Member countries of the Latin American Integration Association are exempt from tariffs on terminal boxes for teleprinters and pay 5 percent rather than 10 percent on mobile radio and nonmobile multiband radio. [redacted] 25X1

A restrictive import permit policy is administered by the Ministry of Commerce in an effort to bolster domestic production of telecommunications equipment and reduce dependence on foreign suppliers. In addition, the public sector follows a "buy Mexican" policy. Government agencies have access to the preferential government-controlled exchange rate when importing various types of telecommunications equipment. [redacted] 25X1

Foreign Investment Controls

Mexico wishes to move quickly into high technology areas that domestic production can not yet supply. As a result, the de la Madrid Administration has taken a slightly more flexible approach to foreign investment and will consider proposals for majority foreign ownership in certain high priority industries such as computers and telecommunications. While the law on foreign investment has not been altered, we believe government approval will be easier to obtain if ventures are export oriented, bring in new technology, use domestic suppliers, and are situated in economically depressed areas. According to press reports, skepticism about Mexico's foreign investment policies remains high. Business executives argue that companies with minority foreign ownership receive quicker approval for new ventures than 100 percent foreign-owned companies, even in the high-technology areas where the government said it would not oppose majority ownership. [redacted] 25X1

The Competitive Environment

The subsidiaries of large multinational corporations continue their historic domination of the Mexican telecommunications market. [redacted] 25X1

[redacted] other companies are gaining a share of the market, particularly the Nippon Electric Company (NEC). The French are also undertaking aggressive marketing efforts. The Canadians are pursuing joint ventures to manufacture communications equipment and telephone systems in Mexico. [redacted] 25X1

DGT and TELMEX set technical standards for telecommunications equipment. Because standards are generally international, technical requirements do not benefit any particular supplier. However, the local presence of GTE, Indetel and Ericsson (in telephone) and Siemens (in telex) make it difficult for other foreign suppliers to export to Mexico. We believe competitive access is also limited by the government's "buy Mexican" policy, import regulations and other measures favoring local producers. However, the liberalized interpretation of the investment law may encourage new entrants in the local market. [redacted] 25X1

Table I

MEXICO: The market for telecommunications equipment, 1979-82 and projected 1987
(in thousands of U.S. dollars)

| | 1979 | 1980 | 1981 | 1982 | Projected 1987 |
|---|---|---|---|---|---|
| Telephone and telex equipment | | | | | |
| Local production | 164,158 | 182,130 | 256,630 | 219,572 | 221,300 |
| Imports | 33,215 | 35,229 | 30,024 | 22,062 | 23,250 |
| Exports (less) | 2,124 | 795 | 551 | 564 | 10,000 |
| Total | 195,249 | 216,564 | 286,103 | 241,070 | 234,550 |
| Transmission equipment | | | | | |
| Local production | 42,162 | 49,500 | 56,500 | 36,805 | 64,750 |
| Imports | 18,353 | 25,539 | 46,908 | 14,113 | 9,900 |
| Exports (less) | 13,776 | 6,721 | 1,872 | 79 | 17,300 |
| Total | 46,739 | 68,318 | 101,536 | 50,839 | 57,350 |
| Mobile radio | | | | | |
| Local production | 6,500 | 7,250 | 14,100 | 9,976 | 11,330 |
| Imports | 5,030 | 9,168 | 6,452 | 2,530 | 900 |
| Exports (less) | --- | 114 | 29 | --- | 230 |
| Total | 11,530 | 16,304 | 20,523 | 12,506 | 12,000 |
| Video and radio broadcasting equipment | | | | | |
| Local production | 750 | 850 | 900 | 531 | 1,180 |
| Imports | 30,325 | 43,715 | 65,062 | 15,830 | 18,250 |
| Exports (less) | --- | --- | --- | --- | --- |
| Total | 31,075 | 44,565 | 65,962 | 16,361 | 19,430 |
| Data communications equipment | | | | | |
| Local production | 250 | 375 | 560 | 440 | 2,260 |
| Imports | 4,200 | 6,300 | 9,500 | 6,693 | 5,650 |
| Exports (less) | --- | --- | -- | --- | 560 |
| Total | 4,450 | 6,675 | 10,060 | 7,133 | 7,350 |
| Communications test and measurement equipment | | | | | |
| Local production | --- | --- | --- | --- | 100 |
| Imports | 4,374 | 5,893 | 3,489 | 2,419 | 2,500 |
| Exports (less) | --- | --- | --- | --- | --- |
| Total | 4,374 | 5,893 | 3,489 | 2,419 | 2,600 |
| Satellite transmission equipment | | | | | |
| Local production | --- | --- | --- | --- | --- |
| Imports | 1,315 | 1,089 | 571 | 76 | 1,500 |
| Exports (less) | --- | --- | --- | --- | --- |
| Total | 1,315 | 1,089 | 571 | 76 | 1,500 |
| Services | | | | | |
| Local production | 3,000 | 3,000 | 3,500 | 3,000 | 4,000 |
| Imports | 1,000 | 2,000 | 2,500 | 1,500 | 1,000 |
| Exports (less) | --- | --- | --- | --- | --- |
| Total | 4,000 | 5,000 | 6,000 | 4,500 | 5,000 |
| Total market | | | | | |
| Local production | 216,820 | 243,105 | 332,190 | 270,324 | 304,920 |
| Imports | 97,812 | 128,933 | 164,506 | 65,223 | 62,950 |
| Exports (less) | 15,900 | 7,630 | 2,452 | 643 | 28,090 |
| Total | 298,732 | 364,408 | 494,244 | 334,904 | 339,780 |

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Table II

Telecommunications Equipment Suppliers

| Name | Country of Manufacture | Type of Equipment |
|---|---|---|
| **Telephone and Telex Equipment** | | |
| Conductores Monterrey | Mexico | Scramblers |
| Condutel | Mexico | Telephone cable |
| Cuttler Hammer | Mexico | Circuit breakers, starters, and control equipment |
| Ericsson | Mexico | Telephone switches and switching systems, subscriber/user premises equipment, other telephone and central office equipment |
| GTE | Mexico | Telephone switches and switching systems, subscriber/user premises equipment, coin-operated telephones, PBX switches and switching equipment, fire protection equipment, breakers and thermo fuses, scramblers |
| Indetel | Mexico | Telephone switches and switching systems, subscribers/user premises equipment, other telephone and central office equipment |
| Industria Telecomunicaciones | Mexico | Scramblers |
| Industrias Electronica | Mexico | Scramblers |
| Latincasa | Mexico | Wire and cable |
| Protectolada | Mexico | Scramblers |
| Siemens | Mexico | Telex systems |
| GTE | United States | Scramblers, slow scan video sets |
| Motorola | United States | Facsimile equipment, slow scan video sets |
| Akai | Japan | Scramblers |
| Ericsson | Sweden | Scramblers |
| Hitachi | Japan | Recording and answering devices, automatic dialers |
| ITT | France | Scramblers |
| National | Japan | Slow scan video sets |
| Philips | Netherlands | Facsimile equipment, slow scan video sets |
| Sony | Taiwan | Recording and answering device |
| Sony | Japan | Recording and answering devices, slow scan video sets |
| Telefunken | Germany | Automatic dialers, slow scan video sets |
| Toshiba | Japan | Facsimile equipment, recording and answering devices |
| **Transmission Equipment** | | |
| Componentes Electronicos | Mexico | Hf radio |
| Conductores Guadalajara | Mexico | Coaxial cable, hf radio |
| Conductores Monterrey | Mexico | Wire and cable, coaxial cable hf radio |
| Condumex | Mexico | Wire and cable, coaxial cable hf radio |
| FESA | Mexico | Wave guide carriers |
| Indetel | Mexico | Carrier trunks |
| Industria Electronica | Mexico | Hf radio |
| Industrias Sintronic | Mexico | Hf radio |
| Latincasa | Mexico | Wire and cable |

Table II (Cont'd)

| Name | Country of Manufacture | Type of Equipment |
|---|---|---|
| Sistemas y Componentes Mexicanos | Mexico | TDMs |
| Telextra (GTE) | Mexico | Carrier trunks |
| Telefonos de Mexico | Mexico | Wave guide carriers |
| Cobra | United States | Hf radio |
| Collins | United States | Microwave equipment |
| GTE | United States | Microwave equipment, antennas, carrier trunks |
| General Electric | United States | Microwave equipment |
| IUSA | United States | Protection switch-gear |
| Motorola | United States | Hf radio |
| Simplex | United States | Coaxial cable |
| Skyline | United States | Hf radio |
| Westinghouse | United States | Hf radio |
| Cuttler Hammer | | Protection switch-gear |
| Ericsson | Sweden | Multiplexers |
| ITT | | Multiplexers |
| National | Japan | Microwave equipment, antennas |
| Philips | Netherlands | Hf radio, multiplexers |
| Standard Elektrik Lorenz | Germany | Antennas |
| Telektra | Italy | Microwave equipment |
| **Mobile radio** | | |
| Alba | Mexico | Marine radios |
| Macromex | Mexico | Radios of less than 45 W, FM singleband, marine radios |
| Bendix | United States | Ground installations for air-ground communication |
| Cobra | United States | Mobile radios |
| Collins | United States | Ground installations for air-ground communication |
| General Electric | United States | Mobile radios, paging systems |
| Motorola | United States | Mobile radios, mobile telephones, paging systems, ground installations, for air-ground communication |
| National | Japan | Mobile radios, mobile telephones |
| NEC | Japan | Mobile telephones, paging systems |
| Philips | Netherlands | Mobile radios |
| Sony | Japan | Mobile radios |
| **Video and audio broadcasting** | | |
| Arquimetalica | Mexico | Antenna towers |
| Eyesa | Mexico | Antenna towers |
| FESA | Mexico | Antenna towers |
| GTE | Mexico | Antennas, transmission lines |
| Techos y Estructuras | Mexico | Antenna towers |
| Admiral | United States | Receivers |

Table II (Cont'd)

| Name | Country of Manufacture | Type of Equipment |
|---|---|---|
| Dynair Electronics | United States | CCTV |
| General Electric | United States | Receivers, scan converters, TV transmitters, antennas, transmission lines, radio studio equipment |
| Motorola | United States | Radio broadcasting equipment, monitors |
| RCA Victor | United States | Radio broadcasting equipment, video studio equipment, monitors, TV transmitters |
| Westinghouse | United States | TV transmitters, antennas, transmission lines |
| Hitachi | Japan | Monitors, video studio equipment |
| National | Japan | Radio broadcasting equipment, CCTV, receivers, scan converters |
| NEC | Japan | CCTV, antennas, transmission lines |
| Philips | Netherlands | CCTV, TV transmitters, video studio equipment |
| Sony | Japan | CCTV, monitors, radio and video studio equipment |
| Telefunken | Germany | Video studio equipment |
| Toshiba | Japan | Monitors, radio and video studio equipment |
| **Data communications** | | |
| GTE | Mexico | Modems |
| Syscom | Mexico | Modems, multiplexers |
| Transdata | Mexico | Modems, multiplexers |
| Codex | United States | Concentrators, modems, multiplexers, switching equipment |
| GDC | United States | Concentrators, multiplexers, switching equipment |
| ITT | United States | Modems |
| Infoton | United States | Multiplexers |
| Micom | United States | Concentrators |
| Norfield | United States | Switching equipment |
| Paradyne | United States | Modems |
| **Communications test and measurement equipment** | | |
| Comex | United States | Telegraph signal test sets |
| Hewlett Packard | United States | Analog line, selective level transmission sets, transmission characteristics testers, spectrum analyzers, standard signal generators (less than 1 GHz), equalization and coil loading measurements, oscilloscopes and chart recorders, telegraph signal test sets, bit error performance testers, PCM system analyzers, data monitors, simulators |
| Muirhead Addison | United States | Cable loss characteristics measurement |
| Polarand | United States | Analog line, selective level transmission sets, spectrum analyzers, microwave sweep generators, frequency response analyzers |
| RCA Victor | United States | Transmission characteristics tests, spectrum analyzers, simulators |
| Rolm | United States | PCM system analyzers |

Table II (Cont'd)

| Name | Country of Manufacture | Type of Equipment |
|---|---|---|
| Systron | United States | Spectrum analyzers, microwave sweep generators, bit error performance testers |
| Tectronics | United States | Data monitors |
| Tectronix | United States | Standard signal generators (less than 1 GHz), frequency response analyzers |
| Telesco International | United States | Interface testers |
| Texscan | United States | Analog line, selective level transmission sets, transmission characteristics testers, white noise test sets (FEM), spectrum analyzers, standard signal generators (less than 1 GHz), microwave sweep generators, equalization and coil loading measurements, oscilloscopes and chart recorders, frequency response analyzers, cable loss characteristics measurement |
| Tri-tronics | United States | Telegraph signal test sets |
| Wabatek | United States | Microwave sweep generators |
| Yew | United States | Telegraph signal test sets, white noise test sets (FEM) |
| Akai | Japan | Analog line, selective level transmission sets, spectrum analyzers, oscilloscopes and chart recorders |
| Gossen | Germany | Data monitors |
| NEC | Japan | TV wave for monitoring |
| Philips | Netherlands | Analog line, selective level transmission sets, oscilloscopes and chart recorders |
| Rolhm | Germany | TV wave for monitoring |
| Telectronics | Japan | White noise text sets (FEM), spectrum analyzers, standard signal generators (less than 1 GHz), equalization and coil loading measurements |
| TMK | Japan | Telegraph signal test sets |
| Yokagawa | Japan | Bit error performance testers |

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Table III

MEXICAN IMPORTS OF TELECOMMUNICATIONS EQUIPMENT
FROM OECD COUNTRIES

($ THOUSANDS)

| SUPPLIERS | 1978 | 1979 | 1980 | 1981 | 1982 |
|---|---|---|---|---|---|
| AUSTRALIA | 10 | 95 | NA | NA | 150 |
| AUSTRIA | 253 | 171 | 164 | 102 | 37 |
| BELGIUM | | | | | |
| LUXEMBOURG | 7,602 | 6,312 | 6,721 | 8,887 | 6,675 |
| CANADA | 1,674 | 2,619 | 4,648 | 7,589 | 9,137 |
| DENMARK | 63 | 4 | 231 | 1,064 | 340 |
| FINLAND | 230 | 279 | 456 | 469 | 244 |
| FRANCE | 5,351 | 5,227 | 8,924 | 7,492 | 9,545 |
| GERMANY | 10,590 | 9,169 | 16,429 | 16,792 | 14,929 |
| IRELAND | -- | -- | -- | 4 | 5 |
| ITALY | 2,454 | 4,220 | 3,891 | 9,008 | 12,173 |
| JAPAN | 12,912 | 23,453 | NA | NA | 64,056 |
| NETHERLANDS | 7,446 | 2,801 | 6,101 | 3,105 | 2,617 |
| NORWAY | 91 | 44 | 75 | 250 | 140 |
| SPAIN | -- | -- | 1,462 | 3,098 | 4,621 |
| SWEDEN | 30,488 | 32,864 | 70,396 | 62,713 | 962 |
| SWITZERLAND | 220 | 225 | 1,110 | 579 | 483 |
| UNITED KINGDOM | 2,775 | 1,144 | 1,962 | 3,727 | 3,549 |
| UNITED STATES | 105,360 | 213,649 | 175,717 | 205,733 | 178,916 |
| TOTAL | 187,519 | 302,276 | 298,287 | 330,612 | 308,579 |

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